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THE ROLES OF MOTIVATION, AFFECTIVE ATTITUDES, AND WILLINGNESS TO COMMUNICATE AMONG CHINESE STUDENTS IN EARLY ENGLISH IMMERSION PROGRAMS

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ABSTRACT

Early English immersion in China has been studied from many angles, but no research to date has investigated affective variables, which may have a profound relevance to successful English acquisition. The present study examines the roles of motivation, attitudes towards learning English, willingness to communicate, perceived competence, language anxiety, and parental support among upper primary immersion and nonimmersion students. Results indicate that immersion students used in this study had significantly higher levels of willingness to communicate and perceived competence and exhibited less language anxiety than their nonimmersion peers. In addition, willingness to communicate and perceived competence were the strongest predictors of English reading and oral proficiency for the combined sample.

INTRODUCTION

After the success of early French immersion programs in Canada, immersion education has been instituted in many settings and cultures throughout the world. A plethora of studies have examined the first language (L1) and second language (L2) performance outcomes of immersion students for many decades; the studies indicate that immersion students score significantly better than their non-immersion peers on academic achievement tests in the target language without any detrimental long term effects on their L1 mastery (Genesee, 1987; Swain & Lapkin, 1982; Knell, 2010). Performance in the target language to linguistic measures such as oral expression

or reading comprehension has been the focus of many studies, but relatively little research has investigated the role of nonlinguistic variables.

Nonlinguistic variables include learner characteristics related to motivation, affective attitudes associated with the learning situation, and personality trait dispositions such as confidence or anxiety. Past research has shown that these nonlinguistic characteristics strongly correlate with a broad range of second language achievement indices (Dornyei & Skehan, 2003; Gardner, 1985; Gardner & Clement, 1990), and other researchers have illustrated the interrelatedness and influence of these nonlinguistic variables through path analysis and structural equation modeling (SEM), which suggests causal links between a variety of linguistic and nonlinguistic characteristics (Gardner, Tremblay, & Masgoret, 1997; Noels, 2003; Yashima, 2002). Nonlinguistic variables indisputably play a meaningful role in L2 performance, but that role needs to be clarified and refined in relationship to contextual factors. Immersion education in a Chinese culture is such a factor, and a study of educational outcomes would not be complete without a research agenda that includes an investigation of affective variables present in the context of language immersion.

English language learning in China takes place in a foreign language context where students' exposure to English occurs almost entirely in the classroom. The learning of English has become a national priority in China, and, as a result, in 2001, the Chinese government lowered the mandatory age for English instruction from Grade 5 to Grade 3 (Liu, 2007). Additionally, many schools, particularly those in large urban areas, offer English instruction earlier than Grade 3. In this study, English immersion classes began in kindergarten.

In addition to lowering the age for English instruction, Chinese educators have mandated an emphasis on communicative language instruction in China (Lee, 2007). Traditionally, Chinese instruction has followed traditional teacher-centered approaches in which students do not actively participate in the classroom. In an effort to increase communicative competence for students who have little opportunity for authentic language input or interactive practice, the early immersion program was begun in Xi'an. Very few studies have investigated factors related to communicative language learning in elementary school children in China (Yang, 2002), and a study of affective variables that relates to communicative propensities may provide useful pedagogical applications for educators and administrators.

The majority of research investigating nonlinguistic variables has taken place with adult learners, such as university students (MacIntyre, Baker, Clement, & Donovan, 2003). A few recent studies in Canada have examined high school or junior high school students in the process of learning French (Donovan & MacIntyre, 2004; MacIntyre et al., 2003), but studies of communicative and affective variables , such as language confidence or willingness to communicate, have not taken place at the primary school level. Therefore, the investigation of nonlinguistic outcomes in upper primary school children will likely contribute a much needed dimension to the study of early English immersion in China.

The purpose of this research is to investigate the affective learner characteristics

of upper primary school children enrolled in English immersion along with another, comparable group of children who go to the same school, live in the same neighborhood, and study English as a core subject. This study will examine a variety of affective variables which have been found to be important to the second language learning process in past research with older learners. These variables include motivation, attitudes towards learning English, parental encouragement, willingness to communicate, perceived competence, and language anxiety.

Motivation

Motivation has been the most researched nonlinguistic variable to date, and differences in motivation have long been shown to correlate positively with a variety of target language proficiency factors (see Gardner, 1985). Motivation, considered to be an internal attribute that can be influenced by outside forces, provides both the initial drive to begin learning a language and the momentum to sustain it. It is the driving force which propels learning and influences both the rate and success of acquisition (Dornyei, 1998). As almost any teacher can attest, motivation may often compensate for a deficiency in aptitude. According to Gardner, motivation refers to the learner's desires, attitudes, and efforts put forth to learn the target language. In the present study, motivational intensity, characterized by the amount of effort a student expends towards learning English, will be measured.

Motivation can influence language proficiency results, but this relationship is one of reciprocal causation because both positive and negative learning experiences can influence the student's motivation to learn (Gardner & MacIntyre, 1993). A successful student may increase his efforts to master the target language, but a student who repeatedly fails to meet his/her language learning expectations may become a less motivated student.

Attitudes Toward Learning English

In this study, attitudes toward learning English are defined as the students' positive or negative inclinations and desires in regard to learning English. As mentioned earlier, past researchers have hypothesized that attitudes towards learning a second language are strongly linked to motivation. In fact, Gardner (1985) conceptualizes students' attitudes towards the learning situation as a subcomponent of the larger construct of motivation. Attitudes will be considered separately from motivation in the current study in order to explore the degree and intensity of these inclinations as well as their relationship with other affective variables and with English achievement. Assessing attitudes can provide feedback about general trends regarding negative or positive feelings towards English learning for young Chinese students.

Parental Support

Parental support is likely associated with attitudes and motivation for students this age as they are typically quite dependent upon their parents to structure their educational learning opportunities. Parental attitudes and behaviors in regard to English

learning may have a great impact upon the educational success of elementary school children. These parental behaviors are characterized by such actions as encouragement for the student to study English, help with English homework, and attempts to speak English at home. On the other hand, parental actions could be considered negative if the student feels undue anxiety or pressure to meet parents' expectations.

Willingness to Communicate

Recent studies investigating affective variables have focused on the attribute willingness to communicate (WTC). These studies have been conducted with immersion students from middle school to those in university settings (Baker & MacIntyre, 2003, Donovan & McIntyre, 2004; MacIntyre, Baker, Clément, & Conrod, 2001; MacIntyre, Baker, Clément, & Donovan, 2003; Peng, 2007). Willingness to communicate conceptualizes a speaker's intention to engage in communication when given a choice. Some individuals may be very hesitant to initiate or respond in the target language, and this hesitance may effect their language outcomes in negative ways. This variable may have particular significance in contexts that differ in the amount of participation and communication required of students such as that in immersion and nonimmersion contexts. To date, WTC has not been studied in primary school children. The WTC construct was initially adapted for an L2 context by McIntyre (1994) who developed a path model which suggests that WTC has two key antecedents: communication apprehension and perceived communication competence. Both of these affective variables were examined in the current study.

Language Anxiety

Communication apprehension or language anxiety, long recognized as an influential variable, is defined as the fear or anxiety that an individual may experience when they communicate with others, whether the communication is actually taking place or is anticipated to occur (MCCroskey, 1977). Language anxiety (LA) has been negatively correlated with both WTC (Baker & MacIntyre, 2003; McCroskey & McCroskey, 1988) and second language course grades (Horwitz, 1986; Trylong, 1987). It has been hypothesized that language anxiety negatively affects language learning because the student is self-conscious and is distracted by self-deprecating thoughts which interfere with both the learning process and attempts to communicate in the target language (MacIntyre & Gardner, 1994). This study investigates the factor of language anxiety in order to explore the associations it has to English language learning and to other effective variables for this group of elementary students.

Perceived Communication Competence

One of the causes of language anxiety may be the learner's belief that his/her communication skills in the target language are inadequate. Perceived communication competence (PCC) is the second key variable which underlies WTC, according to MacIntyre (1994). It is not the actual language competence or skill which is most pertinent, but the learner's perception of competence that will affect WTC.

Some individuals who have high second language proficiency may be unwilling to engage in conversation because they judge that their target language skills are inadequate; others, however, who have mediocre L2 skills might perceive that they are competent and make numerous attempts to communicate with others in the target language. As one might expect, perceived competence and anxiety are reciprocally related in second language acquisition in that anxious speakers tend to underestimate their language competence, but relaxed speakers usually overestimate their ability to communicate in the target language (MacIntyre, Noels, & Clement, 1997). This can result in a cycle of behavior wherein students who are nervous perceive themselves to be poor communicators and, therefore, avoid interpersonal exchanges which may then limit their ability to improve their communicative language competence. In this study, both language anxiety and perceived communication competence will be investigated as separate predictor variables and in relation to WTC for these Chinese elementary school students.

Past research on early English immersion programs in China indicates that immersion students scored higher on oral English proficiency and indices of literacy than students in more traditional language programs (Finnemore, 2006; Knell, 2010; Knell, Qiang, Pei, Chi, Siegel, Zhao, & Zhao, 2007). As the immersion students have more opportunities to interact in English and get more English input, the variable of immersion may have an impact on nonlinguistic factors for this group of children. A portion of past research on nonlinguistic variables has taken place in immersion contexts (although with older students), and, consequently, the experience of immersion has been shown to be related to motivation or communication propensities (Baker & MacIntyre, 2003; MacIntyre & Charos, 1996). Immersion instruction is formulated to provide students with more interaction and exposure to authentic target language input, and immersion pedagogy is consistent with beliefs that a second language is learned in an environment that promotes natural, meaningful communication. This type of language learning environment which provides increased contact with the target language has been positively associated with a variety of social psychological variables such that students have more affirmative attitudes (Genesee, 1984), perceived language confidence and willingness to communicate in the L2 (Baker & MacIntyre, 2003), and less communication apprehension (Baker & MacIntyre, 2003; MacIntyre & Charos, 1996; Wesche, Morrison, Ready, & Pawley, 1990) than students in more traditional language programs. To our knowledge, no studies have investigated nonlinguistic differences between immersion and nonimmersion elementary English foreign language (EFL) students. This investigation is one of the primary goals of the present study.

Age may also interact with nonlinguistic variables for this group of students in that affective attitudes may possibly differ for children at various stages in their language program. A cross-sectional study (Gardner & Smythe, 1975), which investigated language attitudes in middle school and high school students found that the Grade 7 students reported more favorable attitudes towards learning French than the students in Grades 8-10. The Grade 11 students, however, reported highly affirma-

tive attitudes. The researchers suggested that the younger students had more positive attitudes because they were enthusiastic about beginning their language study. As the students progressed in their schooling, their initial enthusiasm dampened as they were increasingly confronted with the challenges of learning an L2. However, attitudes became more positive for the Grade 11 students because their target language skills were much more developed and in line with their expectations. A later study conducted by MacIntyre et al. (2003) found that motivation decreased for French immersion students between Grades 7 and 8, but willingness to communicater, perceived communication competence, and frequency of communication increased from Grades 7 to 8. These scores were maintained for the students in Grade 9. It appears that age and grade level may be associated with changes in affective attitudes. The present study will investigate affective variables for the combined sample and at each grade level in order to determine if there are significant differences in scores across grades.

The outcomes of a study of nonlinguistic variables related to English learning may have implications for classroom procedures and pedagogy. These results could impact teacher behavior and classroom routines, and, consequently, student learning. Such a research agenda complements other research directed towards determining linguistic achievement outcomes and can provide a more comprehensive understanding of factors related to foreign language learning in upper primary school children. In addition to measuring affective variables, the children will also be administered tests of English reading and oral language that will then be correlated to nonlinguistic variables in order to explore patterns of associations. Furthermore, groupings or models of affective variables will then be examined for the degree to which they accurately predict oral English and reading scores. This could contribute additional knowledge regarding the interrelationships between L2 linguistic and nonlinguistic variables for this group of students.

In summary, the purpose of this study is to investigate non-linguistic variables such as motivation, language attitudes, parental support, willingness to communicate, perceived communication competence, and language anxiety for upper primary (Grades 4-6) Chinese children learning English as a foreign language. In addition, the study will explore possible differences between the groups in regard to immersion and grade level. Furthermore, affective variables will be correlated to achievement proficiency in English in order to explore the relationships between these two groups of variables. Finally, models of affective factors will be regressed in relation to English reading, vocabulary, and oral language scores in order to determine which affective variables best predict English achievement for this group of children.

METHOD

Participants

A questionnaire, which assessed affective variables, and the oral language and reading achievement tests were administered to 175 students. The students par-

ticipating in the study were in the upper primary grades; there were 58 students in Grade 4, 58 students in Grade 5, and 59 students in Grade 6. Eighty-six girls and 89 boys were involved in the study, and a quarter of the students enrolled in grades 4-6 were randomly selected.

The students all came from the same neighborhood and attended the Shi Da Fu Elementary school, which is affiliated with Shaanxi Normal University. Approximately half of the students were enrolled in immersion (90), and half of the children took English as a core subject (85). The children began studying English in kindergarten and, after first grade, continued in the same track (immersion or nonimmersion) for the duration of elementary school. The nonimmersion children studied English for four class periods a week, but the immersion students were enrolled in an additional four class periods where they were taught through the medium of English an integrated curriculum that included such subjects as social studies and science.

Procedures

The students participated in both group testing and individual testing, and all of the testing took place in a large conference room located in the school. The individual test battery included an oral proficiency test, vocabulary measure, and a word identification assessment. During the group testing time, the students were given the affective attitudes questionnaire followed by a reading comprehension test. The questionnaire was always administered prior to the test so that students' perception of their performance on the test would not influence their answers on the questionnaire. The students had as much time as they wanted to complete the questionnaire and the reading comprehension test. The individual and group testing time combined took approximately one hour,

The individual testing was administered by two groups of thirty university students who were English majors from Xi'an International Studies University. These students are highly proficient bilinguals and received approximately eight hours of training prior to the testing which included demonstrations and practice sessions. All of the testing took place under the direct supervision of the two authors. Testing directions were given in both Chinese and English for the oral and reading comprehension tests, but the questionnaire was administered entirely in Chinese.

Materials: Non-linguistic Variables

The questionnaire, which included many subtests, will be described below followed by a description of the English achievement measures.

Motivation This construct was measured using the motivational intensity subtest from Gardner's (1985) Attitude/Motivation Test Battery (AMTB). The subtest was modified with the word English substituted for the word French, and all items were translated into Mandarin; otherwise, the content of the test remained the same. A total of ten items were asked relating to the amount of effort a student expended when learning English, and students could choose from three multiple

choice answers. For example, the students were asked, "When it comes to English homework, I (a) put some effort into it, but not as much as I could; (b) work very carefully, making sure I understand everything; (c) just skim over it." The answers were scored from 1-3 points according to Gardner's scale with three points given for an answer reflecting the most effort and one point given for an answer that reflected little or no effort. The calculated Cronbach's alpha for this measure was .77.

Attitudes toward learning English This scale was also adapted from the AMTB and assessed attitudes towards learning English. Once again, the word English was substituted for the word French, and all items were translated into Mandarin. There were five positively worded items and five negatively worded items. There were such items as "Learning English is a waste of time" and "I love learning English." The students responded by choosing a number on a four-point Likert-scale that ranged from strongly agree (4 points) to strongly disagree (1 point). This four-point scale was different from the seven-point Likert-scale included in the AMTB. Interviews with students during the time that the questionnaire was pilot-tested revealed that the fourth through sixth grade students preferred a four-point scale. The reliability coefficient for this test was .91.

Parental support The students' report of the amount of parental support towards learning English was measured by adapting the Parental Encouragement subscale from the AMTB and is included in Appendix A. Several adaptations were made to the scale to make it more appropriate for the students in Xi'an. For example, questions were added about whether or not the parent spoke English to the student at home or if the parent read to the student. The Cronbach's Alpha was .74 for this measure.

Willingess to communicate The WTC scale was adapted from MacIntyre et al. (2001) and included 25 items (Appendix B). WTC was assessed in four skill areas: speaking, listening, reading, and writing. In this way, a score could be calculated for each skill area and a global WTC score could also be determined. A four-point Likert-scale was created for this measurement which ranged from "almost never willing" to "sometimes willing" to "often willing" to "almost always willing." The internal consistency as indexed by Cronbach's alpha was .91.

Perceived communication competence The PCC scale was created for this study and included 10 items (Appendix C). A four-point Likert-scale was utilized which ranged from "It's almost impossible for me to do" to "I can almost always do it." Items ranged from phrases such as "answer the questions that the teacher asks in class" to "learn from the English mistakes that I make." The internal consistency as indexed by Cronbach's alpha was .90.

Language anxiety Language anxiety was assessed using the French class anxiety subscale from the AMTB (Gardner, 1985). Again the scale was adapted for this group of children by replacing the word French with English; otherwise the content was the same. All of the items were negative, such as, "It embarrasses me to volunteer answers in our English class" or "I get nervous and confused when I am speaking in my English class." A four-point Likert-scale was used which ranged

from strongly disagree to strongly agree. A higher score reflected a higher level of anxiety. The reliability coefficient was .87.

Materials: Achievement Proficiency

Oral proficiency Designed to be used with students in grades 1-6 (Ballard & Tighe, 2004), the Idea Proficiency Test (IPT) was used to test oral proficiency. The IPT is a standardized test used with ESL learners in the United States. This test was administered one-on-one and followed a question-answer format. The IPT has a variety of items which require students to complete a direction, identify pictures, answer questions after hearing a story, retell a story, and respond to informational questions such as, "Tell me the days of the week." Cronbach's alpha was determined at .92.

Vocabulary Receptive vocabulary was assessed using the Peabody Picture Vocabulary Test—Revised (PPVT), Form M (Dunn & Dunn, 1981). The examiner read the student a vocabulary word and then asked the student to identify the word by pointing to one of four pictures. Of the 175 test items which increased in difficulty, the student received one point for each correct answer. The IPT and the PPVT scores were combined to form a total oral proficiency score. The internal consistency as indexed by Cronbach's alpha was .91.

Word identification The Letter-Word Identification subtest of the Woodcock-Johnson III Test of Achievement (Woodcock, McGrew, & Mather, 2001) was administered to the students. During testing, the examiner pointed to a letter or word and asked the student to read it aloud. When the student missed six consecutive answers on a page, testing was discontinued. The reliability coefficient for this test was .92.

Reading comprehension This construct was assessed using the *Reading for Understanding subtest* of the IPT Reading & Writing test (IPT R&W). Students were required to read several paragraphs and then answer 6-8 questions. In addition, a vocabulary section required students to choose the correct word or sentence for a picture. Each student received a testing booklet and was given directions in both Chinese and English. In the present study, the word identification and reading comprehension tests were combined to form a total reading variable. Cronbach's alpha was .76.

RESULTS

The mean scores for all of the participants are presented according to language program (immersion/nonimmersion) and grade (4-6) and are included in Table 1. The scores for the language achievement measures (oral proficiency and reading) are reported along with the total scale scores for the affective measures. Separate scores were reported for each of the sub-scales (speaking, listening, reading, writing) for WTC.

Differences Between Groups

Table 1: Mean Scores for Affective Variables

Variable	Grade	Immersion	Nonimmersion	Total Group
Motivation (3 pt. Scale)	4	26.36	26.32	26.34
	5	27.19	25.77	26.54
	6	23.35	23.54	23.44
	T(4-6)	25.65	25.11	25.40
Eng Attitudes	4	36.39	32.95	34.88
	5	36.19	33.50	34.96
	6	31.54	30.27	30.90
	T(4-6)	34.75	32.13	33.53
Parent Support	4	26.07	26.55	26.28
	5	26.85	26.09	26.50
	6	23.38	25.27	24.33
	T(4-6)	25.45	25.93	25.67
WTC	4	73.57	60.32	67.74
	5	79.58	59.91	70.56
	6	65.35	56.04	60.69
	T(4-6)	72.85	58.60	66.20
PCC	4	31.82	29.91	30.98
	5	34.45	28.82	31.81
	6	29.42	28.35	28.88
	T(4-6)	31.86	28.99	30.52
LA	4	7.82	9.27	8.46
	5	8.04	10.41	9.13
	6	8.92	10.23	9.58
	T(4-6)	8.25	9.99	9.06
Oral	4	106.93	52.36	82.92
	5	104.88	46.18	77.98
	6	97.35	58.54	77.94
	T(4-6)	103.15	52.17	79.61
Reading	4	59.61	43.05	52.32
	5	55.42	40.68	48.67
	6	58.50	48.62	53.56
	T(4.6)	57.89	44.37	51.58

Variable	Grade	Immersion	Nonimmersion	Total Group
WTC Speaking	4	24.10	18.92	21.70
	5	25.90	18.75	22.72
	6	21.19	17.31	19.18
	T(4-6)	23.82	18.28	21.18
WTC Listening	4	20.07	17.92	19.07
	5	19.83	17.58	18.83
	6	17.07	16.86	16.96
	T(4-6)	19.06	17.43	18.25
WTC Reading	4	15.07	12.08	13.68
	5	16.03	13.50	14.91
	6	13.89	11.48	12.64
	T(4-6)	15.03	12.29	13.73
WTC Writing	4	13.80	11.15	12.57
	5	14.93	10.88	13.13
	6	12.19	10.97	11.55
	T(4-6)	13.69	11.00	12.41

Note: WTC=willingness to communicate; Eng Attitudes=attitudes towards learning English; PC=perceived communication competence; LA=language anxiety; Oral=total oral proficiency scores; Reading=total reading proficiency scores

A three-way comparison of subjects' multivariate analysis of variance (MANOVA) was conducted to determine if there were differences between groups on a variety of measures. MANOVA allows for several independent variables, and the effects of immersion and grade were explored. Main effects were found for both immersion $F(8,131)=13.99$, $p<.0005$; Wilks' Lambda=.54; partial eta squared=.46, and grade $F(16,262)=3.38$, $p<.0005$; Wilks' Lambda=.69; partial eta squared=.17. There were no significant interaction effects. Separate MANOVAs were done for the combined sample and for each grade level (4-6). Main effects for immersion were found at each grade level: fourth grade $F(8,39)=7.32$, $p<.0005$; Wilks' Lambda=.400; partial eta squared=.60; fifth grade $F(8,37)=6.74$, $p<.0005$; Wilks' Lambda=.407; partial eta squared=.60; and sixth grade $F(8,41)=3.73$, $p<.01$; Wilks' Lambda=.58; partial eta squared=.42.

The multivariate effects were followed up at the univariate level and are included in Table 2. A very stringent adjusted Bonferroni alpha level of $p<.006$ was used at the univariate level in order to guard against a type 1 error. This was calculated by dividing the number of dependent variables into the alpha level .05. Obviously, significant differences exist between the immersion and nonimmersion students on the two language performance variables (oral and reading) for the combined sample and at each grade level, favoring the immersion group. This occurred in spite of lower sixth grade scores (lower than the fourth and fifth grade

students) for the immersion students for oral proficiency.

Differences also existed between the two groups on several of the affective variables such as WTC, LA, and PCC for the combined sample; again, all differences favored the immersion students. Although significant differences in WTC and PCC in Grades 4 and 5 continued, no differences between the groups in regards to affective variables were observed in Grade 6.

When examining the differences between the grades for nonlinguistic variables, differences were displayed between the grades for motivation $F(11,138)=12.00$, $p<.0005$; partial eta squared=.15, and for attitudes towards learning English $F(11,138)=6.00$, $p<.006$; partial eta squared=.08. Post-hoc comparisons using Dunnett's test indicated that the mean score for motivation for the sixth grade group was significantly lower than that for the fifth or the fourth grade students. Likewise, when examining the scores for attitudes towards learning English, sixth grade students proved to be significantly lower on this variable than both the fourth and fifth grade children.

Table 2: MANOVA for Immersion and Nonimmersion Groups

Measure	F	Partial Eta Squared	F	Partial Eta Squared
	Combined Sample		Fourth Grade	
Oral	72.04***	.34	35.99***	.44
Reading	65.52***	.32	32.19***	.41
WTC Total	35.57***	.20	15.09***	.25
PCC	8.27**	.06	2.77	.06
LA	8.09**	.05	2.33	.05
Motivation	1.08	.01	.19	.004
Eng attitudes	6.68	.05	5.40	.10
Parent Support	.45	.003	.07	.001
	Fifth Grade		Sixth Grade	
Oral	45.02***	.51	9.59**	.17
Reading	39.91***	.44	8.86**	16
WTC Total	19.89***	.31	4.3	.08
PCC	9.94**	.18	.23	.005
LA	4.82	.10	1.5	.03
Motivation	3.83	.08	.05	.001
Eng attitudes	2.45	.05	.46	.009
Parent Support	.32	.01	1.97	.04

Note. Oral=total oral proficiency scores; Reading=total reading score;WTC=willingness to communicate; PCC=perceived communication competence; LA=language anxiety; Eng attitudes=attitudes toward learning English. **p<.006. ***p<.0005.

Correlation Between Variables

In order to explore relationships between the linguistic and nonlinguistic variables for the combined sample of children, a bivariate correlation matrix was constructed (Table 3). The majority of variables were significantly associated, and strong correlates (Cohen, 1988, describes correlations over .5 as strong) between oral proficiency and such nonlinguistic variables as WTC and PCC existed. Direct correlations were also observed between reading proficiency and WTC and also between reading and PCC. All of the WTC subtests were moderately to strongly correlated to both oral and reading proficiency, but the speaking subtest of the WTC scale was the most strongly associated of all of the subtests to both reading and oral language achievement. The students exhibited the expected strong negative correlation between LA and reading and oral achievement scores. PCC was also strongly associated to these measures but in a positive manner.

When examining associations between nonlinguistic variables, LA and PCC were strongly correlated to WTC. In addition, the variables of motivation and English attitudes were also highly correlated. These nonlinguistic associations have also been observed in other research (Gardner, 1985; MacIntyre, 1994).

In order to explore which variables best predict successful L2 oral or reading proficiency performance, multiple regression was conducted (Table 3). Multiple regression allows for the analyses of combinations of variables or models in order to examine the predictability of the group as a whole and also to examine the strength of the contribution each individual variable makes to the model. When the nonlinguistic variables were combined together into models, they predicted significantly both oral and reading proficiency, showing the strength of the contribution of nonlinguistic variables to achievement scores in the L2. When examining the individual contribution of the variables (β, scores), it is evident that WTC and PCC are the best predictors. None of the other affective variables made a significant contribution once the variance from the other model variables was factored out.

Table 3: Correlations for Language Proficiency and Affective Variables for the Combined Sample

	1	2	3	4	5	6	7	8	9	10	11	12
1. Oral	___											
2. Reading	.767**	___										
3. WTCtotal	.589**	.540**	___									
4. WTCspeak	.588**	.541**	.896**	___								
5. WTClisten	.450**	.411**	.803**	.600**	___							
6. WTC read	.487**	.397**	.850**	.678**	.607**	___						
7. WTC write	.488**	.464**	.864**	.695**	.610**	.688**	___					
8. PCC	.583**	.563**	.690**	.667**	.548**	.545**	.612**	___				
9. LA	-.478**	-.465**	-.596**	-.609**	-.509**	-.405**	-.454**	-.658	___			
10. Motivation	.326**	.231**	.515**	.489**	.460**	.452**	.414**	.559**	-.553**	___		
11. Eng attitudes	.447**	.346**	.556**	.533**	.487**	.422**	.455**	.593**	-.589**	.689**	___	
12. Parent sup	.143	.021	.268**	.274**	.252**	.182*	.220**	.288**	-.249**	.427**	.405**	___

Note. Oral=total oral proficiency scores; Reading=total reading scores; WTC=willingness to communicate; PCC=perceived communication confidence; LA= language anxiety; Eng attitudes=attitudes toward learning English; Parent sup=Parental support.

*$p < .05$. ** $p < .01$.

Table 4: Results of Standard Multiple Regression Analyses of Nonlinguistic. Predictors of Language Proficiency

	R^2	F	β	t	R^2	F	β	t
	Oral Language Proficiency				Reading Proficiency			
Model	.43	18.88***			.41	17.90***		
Variables								
WTC total			.33	3.72***			.30	3.28**
PCC			.30	3.14**			.37	3.81***
LA			-.15	-1.14			.15	-1.63
Motivation			-.003	-.02			-.20	-2.13
Eng attitudes			.15	1.65			.07	.71
Parent support			.03	.27			-.15	-2.10

Note. WTC=willingness to communicate; PCC=perceived communication competence; LA= language anxiety; Eng attitudes=attitudes towards learning English

*$p<.05$. **$p<.01$. **$p<.001$

DISCUSSION

This was a cross-sectional study conducted with immersion and non-immersion elementary school children learning English as a foreign language. Since the mandatory age for English instruction has been lowered in China, it is imperative to study the effects of various early English instructional programs to better understand the L2 linguistic and nonlinguistic outcomes. The goal of this study was to investigate the role of affective variables and their relationship to L2 learning for the students at the Shi Da Fu School in Xi'an, China. To this end, differences were explored between the groups, and the relationships between affective variables and English achievement were also examined.

Significant differences between the immersion and nonimmersion groups were evident in regards to their achievement on tests of oral proficiency and reading, and significant differences existed between the groups in terms of affective variables. In addition to having higher scores on both of the L2 achievement measures (oral proficiency and reading), the immersion students had significantly higher scores on the nonlinguistic variables of willingness to communicate and perceived communication competence. The immersion students also showed significantly lower levels of language anxiety than the nonimmersion group. Many of the effect sizes were substantial, suggesting that there were profound differences on these variables for the combined sample.

This finding is consistent with the results of studies conducted with older students (Baker & MacIntyre, 2003) and with past research that found immersion programs were associated with more favorable linguistic (Knell et al., 2007) and nonlinguistic results (Baker & MacIntyre, 2003) than other more conventional language programs. The goal of language immersion programs is to provide authentic second language input and encourage interaction, enabling students to learn the second language in a natural and functional manner. Apparently, immersion students who have more opportunities for contact with English are more willing to communicate in English and do so with more perceived competence and less language anxiety.

These differences were not equal across all of the grades, however. There were significant nonlinguistic differences between the immersion and nonimmersion students in the fourth and fifth grade, but there were no significant differences observed with the sixth grade group. Further analysis revealed that the sixth grade students scored significantly lower than both the Grade 4 and 5 students in the areas of motivation and attitudes towards learning English. The reason(s) that the sixth grade students were lower in these areas are unclear and a cause for concern. One explanation may be that, as these students prepare for middle school where their workload requirements will inevitably increase, they were also feeling increased pressure to perform. Perhaps learning involves higher stakes for the sixth grade children. Some evidence for this theory is that the language anxiety scores generally increased from grade to grade for the children. This decrease in

positive motivation and attitudes in the sixth grade students was evident for both the immersion and non-immersion students and should be followed up with additional qualitative measures to better understand this decline. Ideally, an increased awareness by teachers and other educators can impact this trend in the future. The researchers strongly suggest that nonlinguistic variables continue to be investigated with middle school students in order to understand the ways in which these variables change over time.

In addition to an investigation of group differences, patterns of relationships between variables were also explored for the combined sample of children. When examining the association between affective variables, WTC was strongly and positively associated with perceived communication competence and strongly and negatively associated with language anxiety—a finding in accordance with past research (MacIntyre, 1994). These associations may influence positive or negative cycles of behaviors. A negative cycle of behavior may occur when a student undervalues his/her language competence due to language anxiety. This anxiety can then precipitate an avoidance of L2 interaction that deprives the student of opportunities to improve target language skills. Conversely, an increase in perceived communication competence can decrease anxiety and encourage students' communicative behaviors. It then follows that a willingness to communicate can result in increased interaction and potentially increased target language achievement.

Strong correlations were also found between student motivation and student attitudes towards learning English. Gardner (1985) proposed that the attitudes students held towards learning the target language were strongly associated with the amount of effort that they were willing to expend learning the L2. The mean scores for the combined group of students were quite high indicating that for the most part the children had positive attitudes and feelings about learning English. In addition, they seem to be quite motivated on the whole, again based on the mean scores for this variable.

Further examination of the correlation matrix demonstrates that the parental support variable was not significantly correlated to either reading or oral English achievement tests. However, this measure was moderately to strongly related to English attitudes and perceived communication competence and negatively correlated to language anxiety, suggesting that parental support is associated with affective variables and is linked to language proficiency achievement indirectly. As the scores that measured the students' perception of parental support increased, positive English attitudes and perceived English competence scores also increased and language anxiety scores decreased.

The majority of affective variables were significantly correlated to English reading and oral proficiency achievement. In order to gain a better understanding of the way that affective variables might predict successful English achievement, a multiple regression was conducted to examine the contribution of the combined group of variables as well as the individual contribution of each variable (Ta-

ble 4). A grouping or model of the six variables (WTC, PCC, LA, motivation, English attitudes, and parental support) significantly predicted variance on both English reading and oral proficiency, suggesting that nonlinguistic variables are strongly associated with successful L2 performance. When examining the contribution of individual affective variables (β scores), it was found that willingness to communicate (WTC) and perceived communication competence (PCC) were the best predictors for both oral and reading achievement measures. This implies that WTC and PCC are strongly related to successful English proficiency.

Further exploration of the four types of WTC (speaking, listening, reading, and writing) revealed that significant correlations existed between all of the subgroup variables and both reading and oral proficiency. In line with expectations, a willingness to speak in English was highly correlated (r=.588) to oral proficiency, but surprisingly this variable was more highly associated with reading proficiency (r=.541) than any of the other WTC subgroup variables. This may be an indication of the strong link proposed in past research between L2 oral language and L2 reading comprehension, particularly for upper primary children (see August & Shanahan, 2006; Knell, 2010). Apparently, the immersion students are not only advantaged in oral communication as evidenced by their higher oral proficiency scores, but their reading skills may also improve as a result of the association between oral language comprehension and written language comprehension. A willingness to communicate in the target language, therefore, is associated with both oral and written English language proficiency. This is an especially important point to emphasize in terms of pedagogical applications. Classroom instruction which emphasizes oral interaction seems to contribute to students' achievement: Students who are more willing to communicate perform better on L2 reading and oral proficiency measures.

The current study is correlational and cross-sectional in nature, and statements of causality cannot be confidently made. It is, therefore, suggested that future longitudinal studies be conducted in order to gain a better understanding of the way these variables influence achievement in L2 over an extended period of time.

Since relatively little research has been done in this area after the age of mandatory English instruction was lowered, it is important to study many variables, both linguistic and nonlinguistic, pertaining to early English education in China. The students from the early English immersion program at the Shi Da Fu School in Xi'an appear to be more advanced than their nonimmersion peers on tests of English reading and oral language, but they are also significantly more willing to communicate in English, have higher levels of perceived communication competence, and lower language anxiety levels. These same affective variables appear to be significantly tied to achievement in English. Both groups of students appear to have very positive attitudes towards learning English and, for the most part, are quite motivated to learn. Nonlinguistic variables should continue to be studied with primary school children in China in a variety of socio-cultural contexts in

order to gain a more thorough understanding of their role in EFL acquisition.

APPENDIX A

Parental Support

Directions: Following are some items with which you may agree or disagree. Write a number (1-4) in the space to show your level of agreement or disagreement.

1= strongly disagree
2= slightly disagree
3= slightly agree
4= strongly agree

_____1. My parents try to help me with my English.
_____2. My parents think that I should spend more time studying English.
_____3. My parents encourage me to practice my English as much as possible
_____4. My parents urge me to seek help from my teacher if I am having problems with English.
_____5. My parents read to me in English.
_____6. My parents have stressed the importance English will have for me in my future.
_____7. My parents have enrolled me in extra English classes after school.
_____8. My parents speak English to me at home.

APPENDIX B

Willingness to Communicate

Directions: We are trying to understand how you feel about communicating in English with other people. Please write a number in the space to tell us how often you choose to communicate in English. If you are never willing to communicate, write 1, if you are sometimes willing to communicate, write a 2. If you are often willing, write a 3. If you are almost always willing to communicate, write a 4.

1= almost never willing
2= Sometimes willing
3= Often willing
4= almost always willing

Speaking English
_____1 . Speak English to other students in group activities.
_____2. Speak English in front of the class.
_____3. Ask your teacher a question about your homework in English.
_____4. Raise your hand and answer a question in English
_____5. A strange enters your classroom, how willing would you be to talk to them in English.
_____6. Be an actor in an English play.

_____7. Talk to a friend in English who is waiting in line.
_____8. Describe the rules of a game in English.
_____9. Ask for help in English if you are confused by an English task.

Reading English (to yourself, not out loud)
_____1. Read an English story.
_____2. Read instructions in English before doing a task.
_____3. Read information in English on the computer.
_____4. Read English signs in the city
_____5. Read a letter written by an English-speaking student that is your age.

Writing in English
_____1. Write a letter to an English-speaking student that is your age.
_____2. Write a story in English.
_____3. Take notes in English.
_____4. Write down directions for an English-speaking foreigner
_____5. Write in English about a picture that your teacher shows you.

Listening in English
_____1. Try to understand a story that a classmate reads in English
_____2. Listen to English instructions in order to accomplish a task.
_____3. Try to understand an English movie.
_____4. Try to Understand an English-speaking tourist that needs help.
_____5. Try to understand an English presentation by a teacher.
_____6. Listen to understand the meaning of English words in music

APPENDIX C

Perceived Competence

Directions: We want to understand the way that you feel about your English abilities. Choose the number that best describes your abilities and write it in the space.

1 = It's almost impossible for me to do
2 = Sometimes I can do it
3= Usually I can do it
4 = I can almost always do it

_____1. understand most of what my teacher says in English
_____2. use English to communicate with my classmates
_____3. get good grades on my English tests
_____4. understand the stories we read in English class
_____5. learn from the English mistakes I make
_____6. use English to write stories
_____7. do well on my English homework
_____8. answer the questions that the teacher asks in English class

_____9. make myself understood when I ask questions in English.
_____10. speak English well for someone my age

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